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October 1979

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(2)

METEOROLOGICAL DATA REPORT

19702A GSRS
Missile Numbers 225, 226
Round Numbers B-45, B-46
22 October 1979



by

White Sands Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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19. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19702A GSRS, Missile Numbers 225, 226, Round Numbers B-45, B-46 are presented in tabular form.	20. SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)	

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INTRODUCTION

19702A GSRS, Missile Numbers 225 and 226, Round Numbers B-45 and B-46, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0904 and 0904:05 MDT, 22 October 1979. The scheduled launch times were 0900 and 0900:04 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE

LC-33 2Km
NICK 2Km

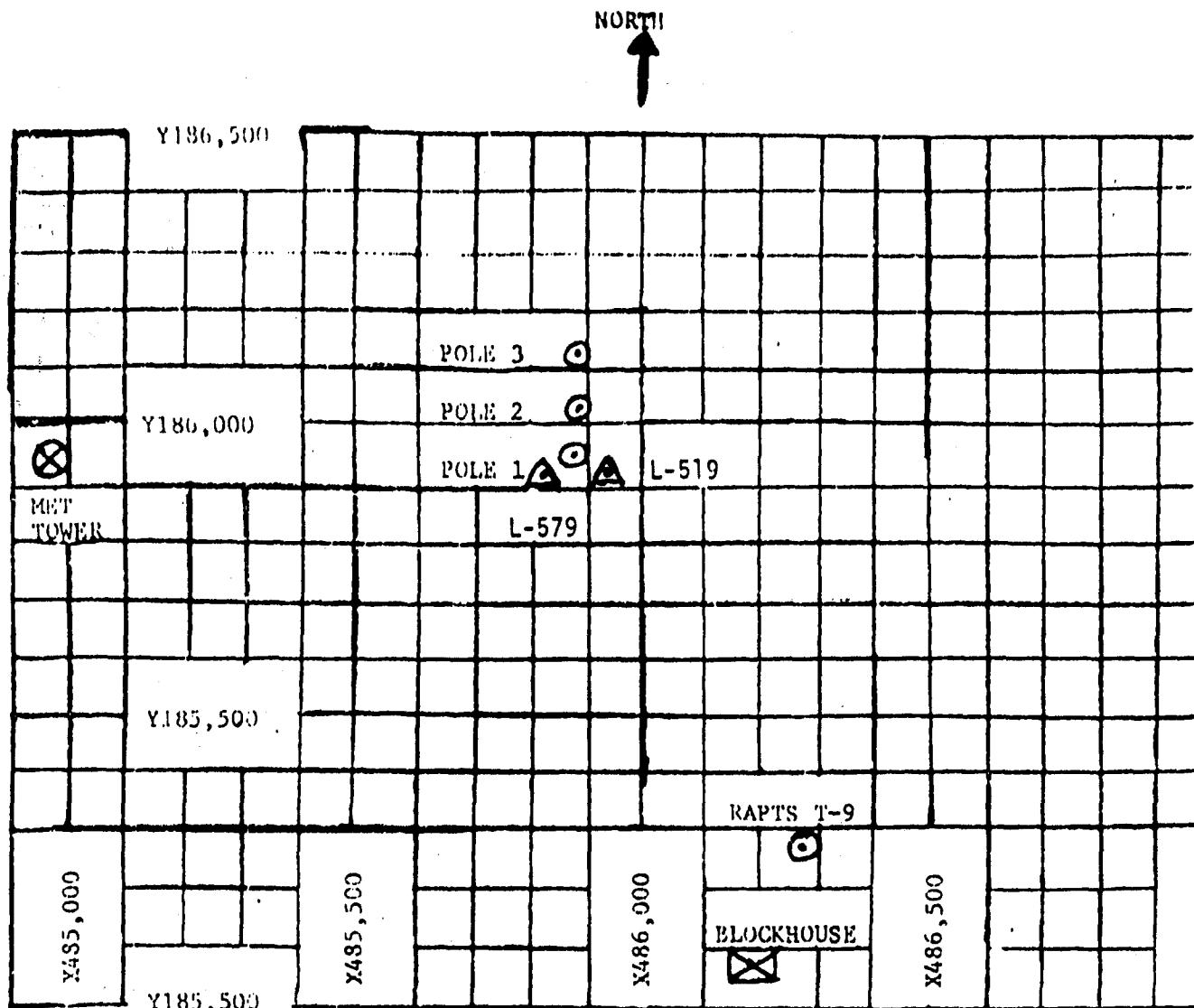
(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 97,500 feet in 500-feet increments.

SITE AND TIME

SMR 0845 MST

23
25

Accession For	NTIS
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Unannounced	
Justification	
By	
Disposition	
Avalibility Classes	
Available and/or	
Special	



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. FIDEL ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 = 38.7 ft
 - (b) Pole #2 = 53.0 ft
 - (c) Pole #3 = 83.6 ft
3. RAPTS T-9 Radar Automatic Cloud-Balloon Tracking System T-9 Radar.

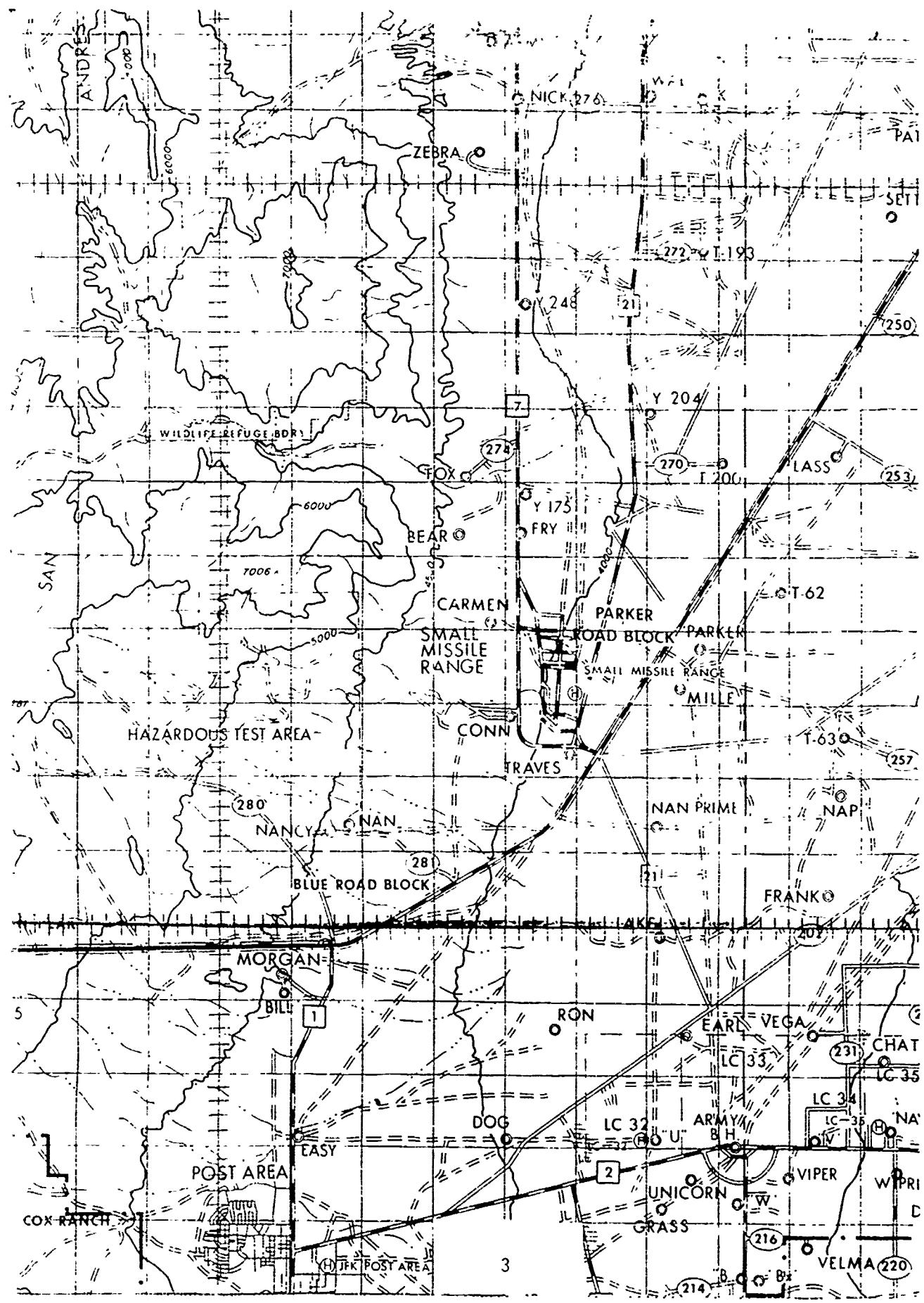


TABLE 1. Surface Observations taken at 0900 MDT,
22 October 1979, at LC-33, 19702A GSRS,
Missile Numbers 225, 226, Round
Numbers B-45, B-46.

ELEVATION	3977.30	FT/MSL
PRESSURE	877.1	"HS
TEMPERATURE	11.1	°
RELATIVE HUMIDITY	50	
Dew Point	1.0	°C
DENSITY	1070	GM/M ³
WIND SPEED	09	KTS
WIND DIRECTION	360	DEGREES
CLOUD COVER	1	Ac

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE 3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	022	08	-30	030	MISG	-30	040	09
-20	022	09	-20	018	MISG	-20	023	08
-10	021	11	-10	016	MISG	-10	026	09
0.0	026	09	0.0	021	MISG	0.0	030	09
+10	026	09	+10	026	MISG	+10	026	09

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft AGL

TABLE 2

TYPE 19702A GSRS MISSILE NOS. 225, 226 ROUND NOS. B-45, B-46
 LAUNCHED FROM LC-33 DATE October 1979 TIME 0904, 0904:05 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 Feet			LEVEL #2 62 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	354	06	-30	026	09
-20	360	06	-20	009	10
-10	006	09	-10	010	10
0.0	360	08	0.0	016	11
+10	360	07	+10	017	11
LEVFL #3 102 Feet			LEVFL #4 202 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	012	09	-30	004	12
-20	005	11	-20	003	11
-10	008	11	-10	004	11
0.0	009	10	0.0	013	10
+10	012	11	+10	004	11

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00 (base)

TABLE 3

TYPE 19702A GSRS MISSILE NOS. 225, 226 ROUND NOS. B-45, B-46

LAUNCHED FROM LC-33 DATE 22 October 1979 TIMES 0904, 0940:05 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

GSRS PILOT BALLOON MEASUREMENT DATA

TABLE 4

RELEASED FROM LC-33 DATE 22 October 1979 TIME 0850 MDT
RELEASED POINT COORDINATE (W.LAT) $\lambda = 486,037.24$ $\nu = 182,350.16$ $\eta = 3977.30$
MISSILE TYPE 19702A GSRS MISSILE NOS. 225, 226 ROUND NOS. B-45, B-46
MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIMES. 0904, 0904:05 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	360	09
90	MISG	MISG
150	017	15
210	013	15
270	005	18
330	003	17
390	009	16
500	004	18
650	008	18
800	006	15
950	001	12
1150	010	06
1350	214	03
1550	256	08
1750	272	11
2000	291	09

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 22 October 1979 TIME 0904 MDT

RELEASED POINT COORDINATES (WSTM) X= 486.037.24 Y= 182.350.16 H= 3977.30

MISSILE TYPE 19702A GSRS MISSILE NOS. 225, 226 ROUND NOS. B-45, B-46

MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIMES 0904, 0904:05 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK DATE 22 October 1979 TIME 0850 MDT MDT

RELEASED POINT COORDINATES (WS1M) X= 470,734.56 Y= 255,775.64 H= 4126.57

MISSILE TYPE 19702A GSRS MISSILE NOS. 225, 226 ROUND NOS. B-45, B-46

MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIME S. 0904, 0904:05 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM NICK DATE 22 October 1979 TIME 0904 MDT
RELEASED POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57
MISSILE TYPE 19702A GSRS MISSILE NOS. 225, 226 ROUND NOS. B-45, B-46
MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIMES 0904, 0904:05 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

STATION ALTITUDE 3997.30 FEET MSL
22 OCT 79 U845 HKS M51
ASCENSION NO. 360

SIGNIFICANT LEVEL DATA
29500003500
S IN K

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
886.1	3997.3	12.8	-1.6	54.0
879.2	4211.8	10.2	-4.9	34.0
850.0	5129.9	7.8	-7.0	32.0
805.2	8566.1	4.2	-10.2	34.0
774.6	7616.5	5.4	-17.7	17.0
710.0	10322.4	1.9	-20.5	17.0
661.4	10765.0	1.9	-21.4	16.0
664.8	11692.3	5.6	-18.4	16.0
531.2	18753.9	-2.7	-18.4	29.0
527.8	17772.4	-5.3	-20.5	29.0
500.0	19171.6	-7.1	-26.2	40.0
483.4	20355.4	-3.3	-27.4	20.0
469.0	20304.3	-10.4	-20.4	21.0
440.0	24752.2	-21.2	-32.0	37.0
391.9	25247.6	-22.7	-32.0	39.0
382.2	25709.7	-22.7	-36.6	46.0
371.0	28469.1	-23.9	-38.7	24.0
360.0	31546.6	-26.2	-48.3	27.0
292.2	32149.1	-37.4	-49.4	27.0
250.0	35630.0	-46.2		
200.0	40352.0	-57.8		
182.6	42750.5	-61.4		
155.2	45630.0	-68.7		
150.0	46202.5	-69.9		
131.4	48795.1	-71.9		
122.6	50152.5	-69.0		
105.4	53110.2	-72.3		
100.0	54131.0	-72.3		
77.0	61151.8	-66.8		
65.4	63152.2	-61.8		
50.0	68011.0	-61.5		
37.7	73916.4	-52.7		
30.0	78733.2	-53.7		
21.6	85761.3	-54.2		
20.0	87405.4	-50.6		
12.0	97253.4	-45.2		

STATION ALTITUDE 497.30 FEET MSL
22 OCT. 79 UH45 HRS MST
ASCENSION NO. 360

UPPER AIR DATA
2250 UTC 30 SEP
S M R

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILIBARS	TEMPERATURE AIR DEGREES CENIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	VIRGINIA DEGREES CELSIUS	"TRUE" DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	886.1	12.9	-2.6	34.0	1077.2	8.9.5	30.0	9.9
4000.0	885.9	12.9	-2.7	34.0	1077.2	8.9.4	30.0	9.9
4500.0	869.9	9.4	-5.4	33.4	1079.5	8.9.5	<2.4	9.2
5000.0	854.1	8.1	-7.4	32.3	1086.1	8.9.5	2.0.2	8.6
5500.0	838.4	6.9	-8.4	32.5	1041.4	6.9.4	14.2	8.0
6000.0	822.9	5.6	-9.3	33.2	1026.9	6.9.0	7.4	7.6
6500.0	807.6	4.4	-10.1	33.9	1012.5	6.9.5	1.0.0	7.0
7000.0	792.8	4.7	-12.6	27.2	925.0	6.9.7	30.0.4	6.0
7500.0	778.2	5.3	-16.5	18.9	912.9	6.9.3	30.0.3	4.8
8000.0	765.7	4.9	-19.1	17.0	950.2	6.9.9	32.4.5	3.5
8500.0	749.5	4.3	-13.6	17.0	940.6	6.9.1	26.0.3	3.5
9000.0	735.6	3.6	-19.1	17.0	925.3	6.9.3	26.1.6	5.8
9500.0	721.9	3.0	-19.6	17.0	910.2	6.9.7	25.5.0	8.0
10000.0	708.5	2.3	-20.2	17.0	895.4	6.9.6	26.7.5	8.1
10500.0	695.5	1.9	-20.8	16.0	880.1	6.9.5	25.5.0	8.6
11000.0	682.4	2.4	-21.5	16.0	860.8	6.9.7	29.0.0	9.5
11500.0	669.7	4.8	-19.6	16.8	853.6	6.9.8	31.0.4	11.3
12000.0	657.2	5.1	-19.0	16.8	822.1	6.9.1	30.0.6	13.3
12500.0	644.9	4.3	-17.8	18.1	809.1	6.9.1	30.0.7	15.5
13000.0	632.8	3.4	-17.7	19.4	796.4	6.9.2	29.0.4	16.9
13500.0	621.0	2.6	-17.7	20.7	783.8	6.9.7	29.5.0	16.1
14000.0	609.3	1.7	-17.6	22.0	711.5	6.9.2	29.5.0	18.3
14500.0	597.9	0.9	-17.7	23.4	753.3	6.9.2	29.2.7	16.6
15000.0	586.8	0.1	-17.7	24.7	747.4	6.9.3	29.1.0	19.9
15500.0	575.8	-0.8	-17.8	26.0	735.7	6.9.3	29.1.9	21.0
16000.0	565.0	-1.6	-19.0	27.3	724.1	6.9.2	29.2.4	22.4
16500.0	554.4	-2.4	-18.2	28.6	712.0	6.9.1	29.0.0	23.0
17000.0	543.9	-3.5	-18.9	29.0	702.0	6.9.0	29.0.4	24.6
17500.0	533.5	-4.7	-19.9	29.9	691.0	6.9.0	29.0.0	25.3
18000.0	523.0	-5.6	-21.3	27.6	680.6	6.9.5	30.0.7	26.4
18500.0	513.2	-6.2	-23.3	24.3	669.4	6.9.7	30.1.9	27.7
19000.0	503.5	-6.9	-25.4	21.1	656.2	6.9.5	30.2.5	29.7
19500.0	493.6	-7.6	-25.6	20.0	647.1	6.9.1	30.2.0	32.4
20000.0	484.1	-8.3	-27.2	20.0	639.3	6.9.2	30.3.4	34.5
20500.0	474.6	-9.6	-27.9	20.6	627.0	6.9.8	30.4.1	36.0
21000.0	465.3	-10.9	-29.5	21.6	617.9	6.9.1	30.4.1	36.8
21500.0	456.0	-12.3	-28.7	23.8	609.8	6.9.3	30.5.1	36.8
22000.0	446.9	-13.7	-29.0	25.8	599.6	6.9.7	30.6.0	37.3
22500.0	438.0	-15.0	-29.4	27.9	590.9	6.9.0	30.6.0	38.2
23000.0	429.3	-16.4	-29.9	29.9	582.2	6.9.4	31.2.6	39.3

STATION ALTITUDE 3997.30 FEET MSL
22 OCT 79 0845 HRS MSL
ASSEMBLION NO. 500

UPPER AIR DATA
2950000300
S (m) R

TABLE 9 (CONT)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY OF AIR CUBIC METERS	SPEED OF SOUND KNOTS	DIRECTION, DEGREES (N.)	INDEX OF REFRACTION
23500.0	420.7	-17.8	31.9	573.7	622.7	301.4	1.000131
24000.0	412.3	-19.1	34.0	565.2	611.0	253.0	1.000129
24500.0	404.1	-20.5	31.6	557.0	619.3	257.0	1.000127
25000.0	395.9	-22.0	32.4	546.9	617.0	244.9	1.000125
25500.0	387.8	-22.6	34.5	539.3	616.0	250.3	1.000122
26000.0	379.9	-23.6	37.3	528.9	616.2	201.4	1.000119
26500.0	372.1	-25.1	38.5	519.7	615.3	203.0	1.000117
27000.0	364.2	-25.6	36.5	511.2	615.8	203.0	1.000115
27500.0	356.6	-26.2	40.4	502.9	612.3	234.0	1.000113
28000.0	349.0	-27.4	41.4	494.8	610.7	296.6	1.000111
28500.0	341.7	-28.7	42.4	486.8	609.2	302.1	1.000109
29000.0	334.5	-29.9	43.5	476.9	607.6	303.9	1.000107
29500.0	327.4	-31.1	44.5	471.2	606.1	293.2	1.000106
30000.0	320.5	-32.4	45.5	463.6	604.5	297.9	1.000104
30500.0	313.7	-33.6	46.3	456.6	603.0	42.6	1.000102
31000.0	307.1	-34.8	47.3	449.2	601.4	230.3	1.000101
31500.0	300.6	-36.1	48.2	441.7	599.9	230.0	1.000099
32000.0	294.1	-37.1	46.1	434.0	596.6	217.7	1.000097
32500.0	287.6	-38.5	51.1	426.6	547.1	277.3	1.000095
33000.0	281.3	-39.6	53.6	419.4	545.4	250.9	1.000094
33500.0	275.0	-40.8	55.4	412.4	593.6	250.4	1.000092
34000.0	268.9	-42.1	52.6	405.5	542.2	249.2	1.000090
34500.0	263.0	-43.5	53.4	398.7	590.6	230.7	1.000089
35000.0	257.2	-44.6	63.6	392.0	569.0	224.7	1.000087
35500.0	251.5	-45.9	70.7	1.0**	345.4	507.3	36.3
36000.0	245.7	-47.1		373.7	565.7	210.7	1.000086
36500.0	240.0	-48.5		371.9	564.1	217.0	1.000083
37000.0	234.5	-49.7		365.3	562.0	230.2	1.000081
37500.0	229.9	-50.6		353.6	561.0	200.5	1.000080
38000.0	225.1	-52.0		352.4	579.4	200.9	1.000079
38500.0	218.5	-53.2		346.1	577.8	207.6	1.000077
39000.0	213.5	-54.4		340.0	560.2	41.1	1.000076
39500.0	209.0	-55.6		334.0	574.6	280.0	1.000074
40000.0	205.7	-56.6		326.1	573.0	203.4	1.000073
40500.0	199.0	-58.0		322.2	571.4	203.7	1.000072
41000.0	194.2	-59.1		315.0	570.0	204.0	1.000070
41500.0	189.5	-60.2		310.0	568.0	231.4	1.000069
42000.0	184.9	-61.2		304.1	567.1	230.1	1.000068
42500.0	180.0	-62.3		298.2	565.7	263.0	1.000066
43000.0	176.0	-63.4		292.3	564.3	207.1	1.000065

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
22 SEC. 79 0845 HRS MST
ASCESSION NO. 360

UPPER AIR DATA
2957060360
S M R

GEODETIC COORDINATES
32°48'03" LAT LEG
106°42'57" LON DEG

TABLE 9 (CONT.)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	CHAMBER SOUND METER	SPEED OF WIND KNOTS	DIRECTION DEGREES (M)	WIND DATA KNOTS	INDEX OF REFRACTION
43500.0	171.7	-64.4	286.6	522.9	263.5	49.9	1.000064	
44000.0	167.2	-65.2	288.9	521.4	265.2	50.5	1.000063	
44500.0	163.4	-66.5	275.0	520.0	262.0	51.0	1.000061	
45000.0	159.4	-67.6	270.0	520.6	261.1	51.4	1.000060	
45500.0	155.4	-68.0	264.8	527.1	260.7	51.7	1.000059	
46000.0	151.2	-68.4	259.4	529.9	260.1	51.7	1.000058	
46500.0	147.7	-69.2	252.4	526.3	261.7	51.4	1.000056	
47000.0	144.0	-69.8	246.7	525.5	260.5	50.1	1.000055	
47500.0	140.4	-70.4	241.2	524.7	261.3	47.9	1.000054	
48000.0	136.8	-71.0	235.8	523.9	260.4	46.7	1.000053	
48500.0	133.4	-71.0	237.5	523.1	260.2	46.6	1.000051	
49000.0	130.0	-71.5	224.6	523.3	260.2	46.5	1.000050	
49500.0	126.8	-70.4	217.8	524.7	260.3	46.7	1.000049	
50000.0	123.6	-69.3	211.2	526.2	260.3	46.0	1.000047	
50500.0	120.4	-69.4	205.9	526.1	261.1	46.1	1.000046	
51000.0	117.4	-69.9	201.3	525.3	260.5	45.3	1.000045	
51500.0	114.4	-70.5	196.7	524.6	260.6	46.1	1.000044	
52000.0	111.6	-71.1	192.3	523.6	260.4	47.9	1.000043	
52500.0	108.7	-71.6	186.0	523.1	260.0	48.1	1.000042	
53000.0	106.0	-72.2	182.7	524.3	260.0	47.0	1.000041	
53500.0	103.3	-72.5	179.2	522.1	260.5	44.9	1.000040	
54000.0	100.7	-72.5	174.9	522.1	261.1	40.1	1.000039	
54500.0	98.1	-72.0	170.0	522.5	260.0	35.5	1.000038	
55000.0	95.7	-71.6	166.4	523.1	260.6	33.2	1.000037	
55500.0	93.2	-71.2	160.9	523.6	260.0	31.0	1.000036	
56000.0	90.9	-70.8	156.6	524.1	261.4	27.4	1.000035	
56500.0	88.7	-70.4	152.4	524.7	260.0	23.3	1.000034	
57000.0	86.4	-70.1	148.3	525.2	260.7	19.0	1.000033	
57500.0	84.2	-69.7	144.3	526.7	261.0	15.1	1.000032	
58000.0	82.2	-69.5	140.4	526.3	260.4	13.3	1.000031	
58500.0	80.1	-66.9	136.6	526.8	260.1	17.0	1.000030	
59000.0	78.1	-68.1	132.9	527.3	260.1	20.8	1.000029	
59500.0	76.1	-68.1	129.3	527.9	262.1	23.6	1.000028	
60000.0	74.2	-67.6	125.4	528.4	260.2	26.6	1.000027	
60500.0	72.4	-67.3	122.5	528.9	261.0	27.6	1.000027	
61000.0	70.5	-66.9	119.2	529.5	261.3	27.4	1.000027	
61500.0	68.8	-65.9	115.7	520.6	262.6	26.9	1.000026	
62000.0	67.1	-64.7	112.2	521.5	261.0	22.5	1.000025	
62500.0	65.5	-63.4	108.8	524.2	262.7	19.3	1.000024	
63000.0	63.9	-62.2	105.5	526.9	261.1	14.1	1.000023	

STATION ALTITUDE 9997.30 FT. -T INSL
 22 OCT. 79 0845 hrs msl
 ASCLATION NO. 360

UPPER AIR DATA
 24500.0-3000.0
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TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	DIRECTION DEGREES	DATA SPEED KIOTS	INDEX OF REFRACTION
83500.0	62.3	-61.9		102.7	566.4	360.1	10.1	1.000023
84000.0	60.8	-61.7		100.2	560.4	40.2	8.4	1.000022
84500.0	59.4	-61.7		97.8	566.5	57.1	7.1	1.000022
85000.0	57.4	-61.7		95.4	566.5	67.7	7.9	1.000021
85500.0	56.2	-61.7		95.1	566.6	111.1	9.2	1.000021
86000.0	55.2	-61.6		90.8	566.6	149.1	11.2	1.000020
86500.0	53.8	-61.6		86.6	566.6	137.0	13.3	1.000020
87000.0	52.5	-61.6		86.5	566.7	147.5	14.1	1.000019
87500.0	51.3	-61.5		84.4	566.7	161.4	15.5	1.000019
88000.0	50.0	-61.5		82.3	566.8	170.9	15.5	1.000018
88500.0	48.8	-60.1		80.1	567.7	162.9	15.1	1.000018
89000.0	47.7	-60.0		78.0	568.7	155.0	15.4	1.000017
89500.0	46.6	-59.9		75.8	569.7	210.0	15.3	1.000017
90000.0	45.5	-58.7		73.6	570.7	205.1	15.3	1.000016
90500.0	44.4	-57.6		71.6	571.7	211.6	14.4	1.000016
91000.0	43.3	-57.1		69.9	572.7	213.1	11.6	1.000016
91500.0	42.3	-56.4		68.0	573.7	243.6	9.1	1.000015
92000.0	41.3	-55.0		66.1	574.7	223.1	7.2	1.000015
92500.0	40.3	-54.0		64.4	575.7	223.3	5.5	1.000014
93000.0	39.4	-54.1		62.6	576.0	233.1	3.9	1.000014
93500.0	38.5	-53.5		60.9	577.0	179.5	4.3	1.000014
94000.0	37.6	-52.7		59.3	578.4	171.3	6.3	1.000013
94500.0	36.7	-52.1		58.0	578.5	157.2	8.1	1.000013
95000.0	35.8	-52.0		56.7	579.1	147.5	8.8	1.000013
95500.0	35.0	-53.0		55.4	579.0	141.4	9.8	1.000012
96000.0	34.2	-53.1		54.1	577.9	135.7	9.4	1.000012
96500.0	33.4	-53.2		52.9	577.7	123.1	8.3	1.000012
97000.0	32.6	-53.0		51.7	577.9	127.6	7.2	1.000012
97500.0	31.9	-53.4		50.5	577.5	215.6	7.9	1.000011
98000.0	31.1	-53.5		49.4	577.3	200.3	22.2	1.000011
98500.0	30.4	-53.0		48.2	577.2	213.5	33.9	1.000011
99000.0	29.7	-53.0		47.1	577.1	239.9	75.4	1.000010
99500.0	29.0	-53.0		46.1	577.0	231.7	16.8	1.000010
80000.0	28.3	-53.3		45.0	577.0	239.0	4.5	1.000010
80500.0	27.7	-53.0		44.0	577.0	119.6	16.7	1.000010
81000.0	27.0	-53.0		42.9	576.9	110.2	37.9	1.000010
81500.0	26.4	-52.9		41.9	576.9	107.3	44.9	1.000009
82000.0	25.8	-52.9		41.0	576.8	107.7	36.2	1.000009
82500.0	25.2	-54.1		40.0	576.8	105.4	27.6	1.000009
83000.0	24.6	-54.0		39.1	576.7	105.4	20.4	1.000009

STATION ALTITUDE 3947.30 FEET MSL
22 OCT 79 USGS HHS, NSI
AEROSOL NO. 504

UPPER AIR DATA
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TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE ALTEITUDE MILLIBARS	TEMPERATURE AIR DEGREE, CENTIGRADE	REL.HUM. PERCENT	GROSS SOUND METERS KNOTS	SPEED OF WIND DATA DEGREES KNOTS	INDEX OF REFRACTION
35500.0	24.0	-54.0	53.2	576.7	93.4	14.0
34000.0	23.5	-54.1	57.3	576.6	71.1	8.0
34500.0	22.9	-54.1	56.5	576.6	87.4	7.0
33000.0	22.4	-54.1	35.6	576.5	117.7	7.7
32500.0	21.9	-54.2	34.9	576.5	142.9	8.9
32000.0	21.4	-54.7	33.9	577.1	139.3	9.8
31500.0	20.9	-52.6	53.0	576.6	127.4	10.9
31000.0	20.4	-51.3	52.0	576.6	113.0	11.7
30500.0	19.9	-50.6	51.2	561.2	141.9	10.6
30000.0	19.5	-50.3	50.4	561.6	141.0	9.6
29500.0	19.0	-50.0	29.7	561.9	141.2	8.1
29000.0	18.6	-49.3	29.0	562.3	131.2	5.5
28500.0	18.2	-49.5	28.3	562.9	178.3	3.3
28000.0	17.8	-49.3	27.6	562.9	160.0	3.0
27500.0	17.4	-49.0	27.0	563.3	61.4	4.2
27000.0	17.0	-48.7	26.3	563.6	203.3	5.6
26500.0	16.6	-48.5	25.7	563.9	55.9	6.9
26000.0	16.2	-48.2	25.1	564.3	152.1	8.3
25500.0	15.8	-48.0	24.5	564.6	61.1	9.8
25000.0	15.5	-47.7	23.9	564.9	153.4	11.2
24500.0	15.2	-47.5	23.4	565.3	63.9	12.4
24000.0	14.8	-47.2	22.8	565.6	153.5	13.5
23500.0	14.5	-46.9	22.3	565.9	153.9	14.6
23000.0	14.1	-46.7	21.7	566.3		14.0
22500.0	13.8	-46.4	21.2	566.6		14.0
22000.0	13.5	-46.2	20.7	566.9		14.0
21500.0	13.1	-45.9	20.2	567.3		14.0
21000.0	12.8	-45.6	19.7	567.6		14.0
20500.0	12.4	-45.4	19.3	568.0		14.0
20000.0	12.0	-45.4				

GEOGRAPHIC COORDINATES
52°48'34" LAT DEG
106°42'30" LON LEG

STATION ALTITUDE 3997.30 FT. L.L. MSL
22 OCT. 79 0845 HRS. MST
ASCENSION NO. 360

MANDATORY LEVELS
PRESSURE COORDINATES
S M R

TABLE 10

PRESSURE GEOPOTENTIAL MILLIBARS	F E E T	LEGTHES	TEMPERATURE AIR DEPOIN. CENTIGRADE	REL.HUM. PERCENT	WEATHER DATA	
					DIRECTION DEGREES (IN)	SPEED KNOTS
850.0	5126.	7.0	-7.0	32.	16. /	8.4
800.0	6754.	4.4	-11.2	51.	360.0	6.5
750.0	8479.	4.3	-18.0	17.	280.0	3.5
700.0	10312.	1.0	-20.5	17.	270.0	8.3
650.0	12286.	4.6	-17.9	10.	301.0	14.6
600.0	14410.	1.1	-17.7	<5.	290.0	16.7
550.0	16639.	-2.8	-18.3	<9.	294.0	24.2
500.0	19145.	-7.1	-26.2	<0.	302.0	30.6
450.0	21813.	-13.2	-28.9	25.	315.0	37.0
400.0	24711.	-21.2	-32.0	17.	295.0	43.3
350.0	27909.	-27.3	-41.3	25.	293.0	36.7
300.0	31486.	-30.2	-48.3	<7.	290.0	43.7
250.0	35552.	-46.2	-46.2	291.0	36.2	
200.0	40294.	-57.8	-57.8	286.0	50.0	
175.0	43020.	-65.6	-65.6	267.0	49.5	
150.0	46078.	-68.0	-68.0	269.0	51.6	
125.0	49626.	-69.8	-69.8	269.1	46.9	
100.0	55964.	-72.3	-72.3	309.0	39.1	
80.0	58308.	-80.9	-80.9	250.0	16.8	
70.0	60943.	-66.8	-66.8	262.0	27.6	
60.0	64050.	-61.7	-61.7	41.0	7.5	
50.0	67757.	-61.5	-61.5	170.0	10.6	
40.0	72370.	-54.5	-54.5	234.0	5.1	
30.0	78468.	-50.7	-50.7	289.0	29.8	
25.0	82291.	-54.0	-54.0	102.0	25.6	
20.0	87001.	-50.6	-50.6	141.0	10.9	
15.0	93196.	-47.4	-47.4	63.0	12.7	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.